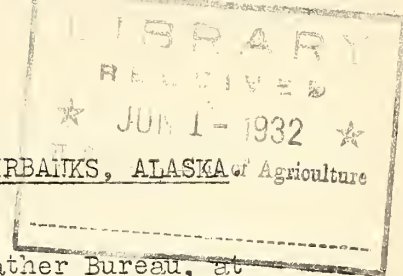


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SPECIFICATIONS FOR AIRPLANE OBSERVATION FLIGHTS AT FAIRBANKS, ALASKA of Agriculture

For making airplane observation flights for the Weather Bureau, at the times and dates specified herein, to heights of 16,500 feet above ground, at Fairbanks, Alaska, or immediate vicinity, during the fiscal year, July 1, 1932 to June 30, 1933, in accordance with the following schedule and conditions:

Separate bids must be submitted for flights made under two major schedules, viz., (A) and (B) as follows:

- (A) On the basis of three flights per month (excepting August, when six flights are scheduled) as indicated herein, under SCHEDULE OF FLIGHTS (I) (b) and (c), and for,
- (B) On the basis of five flights per month (excepting August when eight flights are scheduled) as indicated herein, under SCHEDULE OF FLIGHTS (I) (b) (c) and (d)

Cost per flight for (A) schedule \$.....

Cost per flight for (B) schedule \$.....

Depending on the aggregate costs as indicated under (A) and (B), above, awards will be made on the basis of the lowest bids for either (A) or (B).

(I) SCHEDULE OF FLIGHTS-

- (a) Although flights must be started, as a rule, at the time specified, latitude in starting them earlier or later will be allowed under conditions set forth hereinafter. (By "starting" a flight is meant the actual take-off of the airplane. By "ground" is meant the field at which the flights are to be started).
- (b) On the following dates flights will be started between 8 a.m. and 10 a.m. and between 8 p.m. and 10 p.m. (150th Meridian Time), unless weather conditions are unfavorable as specified under (II) WEATHER CONDITIONS, of these specifications:

August 10, 1932.	January 11, 1933.
*August 31, 1932.	February 8, 1933.
September 14, 1932.	March 8, 1933.
October 12, 1932.	April 12, 1933.
November 9, 1932.	May 10, 1933.
December 14, 1932.	June 7, 1933.

*The times of observations on August 31, 1932 (date of solar eclipse) may possibly be changed from those indicated, to conform with those fixed by the International Polar Year Commission. As soon as decision regarding the exact times for this date is reached the contractor will be informed.

- (c) On the following dates flights will be started between 2 a.m. and 4 a.m. (150th Meridian Time), unless weather conditions are unfavorable as specified under (II) WEATHER CONDITIONS, of these specifications:

August 11, 1932.
*August 31, 1932.
September 15, 1932.
October 13, 1932.
November 10, 1932.
December 15, 1932.
January 12, 1933.
February 9, 1933.
March 9, 1933.
April 13, 1933.
May 11, 1933.
June 8, 1933.

- (d) On the following dates flights will be started between 8 a.m. and 10 a.m. and between 8 p.m. and 10 p.m. (150th Meridian Time), unless weather conditions are unfavorable as specified under (II) WEATHER CONDITIONS, of these specifications:

August 24, 1932.
September 28, 1932.
October 26, 1932.
November 23, 1932.
December 28, 1932.
January 25, 1933.
February 22, 1933.
March 22, 1933.
April 26, 1933.
May 24, 1933.
June 21, 1933.

- (e) If unfavorable weather conditions as specified under (II) WEATHER CONDITIONS, of these specifications, make it inadvisable to start any flight at the scheduled time, it shall be started within two hours after conditions become favorable.

(II) WEATHER CONDITIONS-

- (a) Weather conditions will be considered favorable for making the flights when the ceiling at the airport from which the flights are regularly made is reported by the Weather Bureau to be over 800-feet and the visibility over two miles unless, (1) the official forecast, which will be issued by the Weather Bureau Airport Station as a trip forecast, for every flight, indicates a lowering of the ceiling to 800 feet or a decrease of visibility to two miles or a probability of dangerous ice formation on the airplane within 3 hours; or (2) when it would be necessary to fly into cumulo-nimbus clouds; or (3) when for any other reason the Weather Bureau observer considers the weather or other conditions too dangerous for flying.

(III) DEFINITION OF FLIGHT-

- (a) A flight will consist of making an airplane ascent (the airplane to be instrumentally equipped as hereinafter set forth), at a rate of ascent not greater than 1000 feet per any three minute period, but preferably at a rate of 1000 feet per any five minute period.
- (b) The airplane must level off during the ascent and remain at the 1500 foot level (above ground) for at least one minute and similarly at each succeeding 3000 foot interval, i.e., at the 4,500, 7,500, 10,500, etc., foot levels (above ground); also at the maximum elevation reached in each flight.
- (c) After reaching the maximum elevation the airplane will return to the ground as rapidly as practicable.
- (d) The place of landing must be at the place of take-off unless weather conditions (as indicated in (II) WEATHER CONDITIONS, of these specifications), make this impracticable.
- (e) The entire flight must be made, as nearly as practicable, directly over the Airport from which the take-off is regularly made.
- (f) No ascent of less than 3000 feet above ground shall be deemed to constitute a flight within the meaning of these specifications.
- (g) The maximum height of each flight will be computed and determined from the autographic record by standard Weather Bureau methods. In the event of failure of the meteorograph to record, payment will be made on the basis of the altimeter reading as provided for under (IV) (f) of these specifications. Such altimeter readings will be corrected, if necessary, by the Weather Bureau, in accordance with the previous general agreement found between altimeter indications and the height as computed in detail by standard Weather Bureau methods.

(IV) WRITTEN REPORT OF FLIGHT.-

The contractor's pilot shall submit to the local representative of the Weather Bureau a written and signed statement containing the following information at the termination of each flight, so far as it is practicable to determine.

- (a) Time of entering and leaving clouds, fog, and haze; also whether the bases or tops of clouds are referred to.
- (b) Time of beginning and ending of precipitation and kind of latter.
- (c) Time of occurrence, and direction observed, of unusual phenomena such as lightning, thunder, auroras, etc.

- (d) Cloud types and amounts visible above lower cloud layers.
- (e) Whenever clouds are not entered but their distance from the airplane is relatively close, their estimated height as indicated by the altimeter should be given. Such heights should always be indicated as estimated.
- (f) Maximum elevation above ground as indicated by altimeter.
- (g) The pilot will press a button or other similar arrangement for closing the electric circuit for marking the record sheet whenever conditions in (a), (b) and (c) occur.

(V) EQUIPMENT AND PERSONNEL-

(a) To be furnished by the Weather Bureau.

- (1) The Weather Bureau will furnish an aero-meteorograph (weight approximately seven (7) lbs.).
- (2) A representative of the Weather Bureau will place this instrument in position on the airplane before each flight is begun and remove it from the airplane when the flight is terminated.

(b) To be furnished by the contractor-

- (1) The contractor shall furnish the necessary airplane, licensed pilot, material and equipment customary for airplane navigation; also a suitable mounting apparatus for carrying the above mentioned Weather Bureau instrument on the airplane. The position and method of mounting this instrument must be approved by the Weather Bureau representative.

(VI) PAYMENT-

- (a) Payment will be made at the end of each month, or as soon thereafter as it is possible to audit the vouchers at the U. S. Department of Agriculture, Washington, D. C.
- (b) Should the maximum elevations attained be greater or less than 16,500 feet above ground, payments made by the Government for each flight will be increased or reduced on the basis of the foregoing bids according to the following scale:
 - (1) For flights in excess of 16,500 feet above ground:
An addition of ten per cent (10%) of the bid price for a flight to 16,500 feet above ground, for each additional unit of 1500 feet or major fraction. (A major fraction is defined as over 750 feet above the highest 1500 foot level attained on the flight).

(2) For flights less than 16,500 feet above ground:

- 15,000 to 16,499 feet, incl., a deduction of ten per cent (10%) of the bid price for a flight to 16,500 feet above ground.
- 13,500 to 14,999 feet incl., a deduction of twenty per cent (20%) of the bid price for a flight to 16,500 feet above ground.
- 12,000 to 13,499 feet incl., a deduction of thirty per cent (30%) of the bid price for a flight to 16,500 feet above ground.
- 10,500 to 11,999 feet incl., a deduction of forty per cent (40%) of the bid price for a flight to 16,500 feet above ground.
- 9,000 to 10,499 feet incl., a deduction of fifty per cent (50%) of the bid price for a flight to 16,500 feet above ground.
- 7,500 to 8,999 feet incl., a deduction of sixty per cent (60%) of the bid price for a flight to 16,500 feet above ground.
- 6,000 to 7,499 feet incl., a deduction of seventy per cent (70%) of the bid price for a flight to 16,500 feet above ground.
- 4,500 to 5,999 feet incl., a deduction of eighty per cent (80%) of the bid price for a flight to 16,500 feet above ground.
- 3,000 to 4,499 feet incl., a deduction of ninety per cent (90%) of the bid price for a flight to 16,500 feet above ground.

Less than 3,000 feet, no payment will be made for the flight.

(c) While the contractor shall have the right of decision as to whether or not a flight shall be made:

- (1) there shall be deducted from amounts otherwise due him liquidated damages at the rate of 100% of the contract price for one flight to 16,500 feet above ground, in accordance with these specifications, for each failure to make a scheduled flight when the failure is due to other than unfavorable weather conditions as specified under (II) WEATHER CONDITIONS, of these specifications;
- (2) there shall be deducted from amounts otherwise due him liquidated damages at the rate of 25% of the contract price for one flight to 16,500 feet above ground, in accordance with these specifications, when a flight is started more than one hour before or after the scheduled times indicated under (I) SCHEDULE OF FLIGHTS, unless weather conditions are unfavorable as specified under (II) WEATHER CONDITIONS, of these specifications;

- (3) there shall be deducted from amounts otherwise due him liquidated damages at the rate of 25% of the contract price of one flight to 16,500 feet above ground, in accordance with these specifications, whenever a delay of more than two hours occurs before a flight is started after weather conditions change from unfavorable to favorable as specified under (I)(e) SCHEDULE OF FLIGHTS, of these specifications.

Weather conditions are unfavorable as indicated under II WEATHER CONDITIONS of these specifications.

(VII) CONTRACT-

Each bidder must furnish a guaranty bond or certified check drawn in favor of Disbursing Clerk, U. S. Department of Agriculture, as security in the amount of \$300.00 guaranteeing that he will not withdraw his bid within 30 days after the opening of same and that he will, if awarded the contract, execute formal contract and bond, such bond to be in the amount of \$3000.00.

(VIII) GENERAL-

- (a) The pilots making these flights must hold a transport pilot's license; the airplanes used must have been duly inspected and approved by the U. S. Department of Commerce.
- (b) The contractor will not be required to carry a Weather Bureau representative in the airplane making these flights.
- (c) The contractor shall without additional expense to the Weather Bureau obtain all required licenses and permits and be responsible for all damages to persons and property that occur as a result of his fault or negligence in connection with the prosecution of the work.
- (d) The bidder must designate the name or location of the Airport from which he proposes to make the flights. Name of Airport or location-----
- (e) If the contractor fails to perform satisfactorily the airplane service required herein, the Weather Bureau may procure such service in the open market and the contractor and his sureties will be held liable to the Government for any excess cost over the contract rate occasioned the Government thereby.
- (f) The Weather Bureau reserves the right to reject any or all bids.